

**** Past, Present, and Future of Whitebark Pine in The Northern Greater Yellowstone Ecosystem**

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The recent federal listing of whitebark pine as threatened highlights the vulnerability of this species. Because it is imperiled range-wide, it is important to understand the trends and patterns of whitebark pine mortality and natural regeneration at a landscape scale. This can define the magnitude of the problem and inform a management response. Whitebark pine has been the focus of monitoring efforts across its range, including the Greater Yellowstone Ecosystem (GYE). The northern tier of the GYE includes the Absaroka Beartooth Wilderness and adjacent national forest lands, a nearly 1.5-million-acre area with extensive WBP forests. In 1995, a multifaceted whitebark pine monitoring program was initiated by the Custer-Gallatin and Shoshone Forests that is unique in spatial scale and longevity. It assesses whitebark pine condition in the context of landscape level fires and beetle and blister rust epidemics. For three decades, data on forest structure and condition, tree mortality, and seedling establishment was collected during repeat visits at ~2,000 transects across 1.5 million acres. We are conducting final visits to these transects which will complete this comprehensive monitoring program addressing ecological issues tied to persistent management concerns. We will summarize monitoring from 1995 to 2025 and offer preliminary results.